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CIRCULATES ALL OVER THE WORLD
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THOMAS G. NEWMAN,
EDITOR.

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EDITORIAL BUZZINGS.

A Little Time for laughter,
A little space for song—
And tears that hurry after—
Ere we, too, go along.

The Silver Wedding (25 years) of Mr. and Mrs. H. D. Cutting occurred on the 27th ult. Their friends in Clinton, Mich., (their home) took them by surprise in the evening—assumed control of their home, spent a few pleasant hours, leaving many presents as remembrances of their visit, and departed with good wishes all around. The BEE JOURNAL also extends its congratulations.

The Programme of the International Convention to be held at Keokuk on the 29th inst, will be found on another page. We hope that there will be a large attendance. The railroads refuse to give us special rates, but that cuts only a small figure. The hotels give us special rates, and the Business Men's Association of Keokuk have kindly donated the free use of the Hall of the Grand Army of the Republic (one of the finest in the city) for the convention.

The Secretary, Mr. C. P. Dadant, writes as follows concerning the convention :

Friend Root has suggested that bee-keepers bring different sorts of honey to be tested, and also cakes and preserves made of honey, to be tried at a special dinner. We expect to be able to fix this all right, and I trust that our Western bee-men will bring us displays of various kinds.

All goods addressed to me and prepaid to Keokuk or Hamilton will be delivered in the exhibition room free of charge, under my supervision. We hope our Western bee-men will strive to make this meeting as successful and as interesting as the best the association ever had. C. P. DADANT.

The Pursuit of Bee-Keeping.—As producers of honey and wax bees are of great value, but their labors in carrying pollen from flower to flower, and thus fertilizing and causing the fruit to *set and mature*, shows their greatest value in the economy of Nature.

This is shown very clearly, and argued at considerable length in the able article in this issue from Prof. Samuel Cushman, apiarist of the Rhode Island Experimental Station.

It is a portion of his report to the Agricultural Department at Washington, and is published by the Government in a pamphlet.

This will aid the pursuit of bee-keeping very much, for it shows the desirability of the cross-fertilization of flowers, and the aid rendered by insects in this work, as well as the adaptability of the honey-bee to the flowers of the most important fruit and vegetable crops dependent upon insect visits.

It also calls attention to the decision of the Supreme Court of Arkansas as to the unconstitutionality of prohibiting bee-keeping ; also to laws lately passed in Germany, which give all land owners the privilege of keeping bees anywhere ; promises protection by civil right and law, as well as punishes the destruction of bees by poison or any other way, by a fine of $150, or imprisonment for one year.

It indorses the work of the National Bee-Keepers' Union, which persistently fought for and triumphantly obtained that Decision in Arkansas !

It also shows that no one need refrain from keeping bees on account of opposition due to ignorance, fear, jealousy, or the ill-will of their neighbors, though all reasonable precautions should be taken to prevent accidents.

This shows what influence has been exerted by the Union. It protested against unjust law and conquered ! It fought with men in temporary authority, and ousted them from the offices they disgraced !

It demanded for bee-keepers their inalienable rights, and procured the best legal talent to argue the case. As a result the Supreme Court gave a Decision, which was worth thousands of dollars to the industry !

Still more, it appealed to that "Magna Charta" of our rights and liberties—the Constitution of the United States—for the rights of apiarists to pursue an honorable and peaceful vocation. Victory perched upon its banners, and the Union now says to ignorance and jealousy—"Hands off !" "No citizen shall be deprived of his life, liberty or *property* except by the judgment of his peers, and the law of the land."

☞ Among our callers last week were Mr. H. H. Brown, of Light Street, Pa., and W. M. Barnum, of Angelica, N. Y.—with both we had a very pleasant visit.

The City Board, at Plano, Ills., was warned in time by the pamphlets we sent to each member, on the Arkansas Supreme Court Decision, entitled "Bee-Keeping Not a Nuisance." The members saved themselves trouble by referring the petition of Mr. Marley to the Law and Ordinance committee, where it will be buried. The members of the committee say that no action will be taken on the matter.

The instigator, however, lets himself down easy, by averring that he "will take it to the Courts." That is just the place to have it. There we have a Decision on record, as a precedent that bee-keeping is not *per se* a nuisance !

The quiet work done by the Union is effectual ! It warns the foolish to *beware !* To the leader of an attack on apiculture it says—*Hands off !*

When the cause is a just one (and it will defend no others), it is always successful when carried to the highest Courts. Local prejudice may avail for a time, but "the majesty of law" triumphs at last, by giving to the pursuit of bee-keeping its "rights and privileges" under the Constitution, and defending its devotees in the enjoyment of them.

Friend W. F. Clarke, of Guelph, Ont., writes us that he expects to attend the International Convention at Keokuk, as the official Representative of the Ontario (Canada) Bee-Keepers' Association. He has had an attack of lumbago combined with sciatica, which lasted nearly all the summer. The lumbago seems to have left him, but the sciatica remains as his constant companion and tormentor. He is much improved, however, and will make the trip to Keokuk in the interest of health as well as to enjoy the fellowship of kindred minds. That meeting promises to be a very pleasant one.

About 60 of the bee-keepers of Southwestern Wisconsin met at the residence of E. France, of Platteville, on the 8th inst., and held an interesting convention. Several essays were read, and the subjects presented were thoroughly discussed. From the 1,600 colonies of bees represented, the average honey crop was 14 pounds. The next meeting will be held at Lancaster, Wis., in March, 1891.

Free Trial Trip subscriptions are coming in quite rapidly. We thank our friends for this new illustration of their personal interest in the BEE JOURNAL. We want thousands to read it for a few weeks who did not know of its existence. Do not be afraid of sending too many names. Let us have the name and address of every person who keeps bees in America.

Clubs of 5 for $4.00 to any addresses. Ten for $7.50, if all are sent at one time.

GLEANS OF NEWS.

The State Fair at Providence, R. I., was very successful. One of the greatest attractions was the Bee and Honey Department. It is thus described by the Providence *Journal*:

In the old pastry room is to be found the finest exhibit of bees and products that has ever been held anywhere in the New England States, or in New York State.

The space apportioned the exhibitors in this department has proved entirely inadequate to their needs and an overflow exhibit is to be found in the butter and cheese room. The exhibits show the various kinds of bees, queens, queen-cells, and the implements and supplies used in the modern methods of producing honey. Glass observatory hives to the number of 8, containing colonies, are here to be found, and in addition to these there are nine single-comb glass hives.

The exhibitors are Arthur C. Miller, of Barrington, who exhibits comb honey, extracted honey of various kinds, jars of granulated honey, sun wax extractor, and implements and honey; A. M. Cole exhibited comb honey and bees; E. S. Bowen, extracted honey; Thomas M. Pierce, extracted and comb honey, bees and beeswax. Dr. Merchant, of Warren, extracted honey and finely filled combs, as well as hives of bees; John A. McCray, crates of comb honey.

Samuel Lewis has a very large exhibit of extracted honey, granulated honey and comb honey; Robert Niven, of Providence, exhibits honey in glass show cases, both comb and extracted; William A. Green exhibits several hives of bees and instruments used in queen-rearing; W. J. Tracy and A. C. Olney have also small exhibits.

Mr. Samuel Cushman, representing the Rhode Island Experiment Station, exhibits a large number of bottles of extracted honey in the various styles of the most desirable jars for preserving the product. Mr. Cushman also brought up from the School at Kingston, a cage having a swarm of bees clustered on a branch in quite a natural style. The Experiment Station has made a collection of hives of various patterns from different parts of the country, to examine, which will be of interest to bee-keepers or intending bee-keepers.

The premiums awarded in this Department were:

Most attractive display of comb honey, 1st, Robert Niven, Providence; 2d, Samuel W. Lewis; 3d, Albert M. Cole, East Providence.

Samples of comb honey, not less than 12 pounds, perfection and color of comb and quality of honey to govern, 1st, Arthur C. Miller, Barrington; 2d, A. C. Olney, Harrisville; 3d, J. H. Merchant, Warren.

Largest and most attractive display of extracted honey, 1st, Samuel W. Lewis, Olneyville; 2d, Arthur C. Miller, Barrington; 3d, E. S. Barnes, Providence.

Samples of extracted honey, not less than 12 pounds, quality, body, flavor and color considered, 1st. J. M. Merchant, Warren; 2d, Mrs. S. M. Lackey, Providence; 3d, Thomas M. Pierce, Wickford.

Best display of granulated honey in glass, 1st, Mrs. Lackey, Providence; 2d, Samuel W. Lewis, Olneyville; 3d, Arthur C. Miller, Barrington.

Best display of not less than 5 pounds of beeswax produced by exhibitor, 1st, Mary E. Ralph, Hope; 2d, Arthur C. Miller, Barrington; 3d, Thomas M. Pierce.

Best display of Italian bees and queen in single-comb observatory hive, 1st, A. M. Cole, East Providence; 2d, Arthur C. Miller; J. M. Merchant.

Best display of Carniolan bees and queen in single-comb observatory hive, 1st, Arthur C. Miller.

Best display of queen-cells and attendant bees in single-comb observatory hives, cells to mature during the Fair, 1st, Thos. M. Pierce; 2d, J. M. Merchant; 3d, A. M. Cole.

Best colony of bees, 1st, Arthur C. Miller; 2d, J. M. Merchant; 3d, W. A. Greene, Providence.

Best complete hive for comb honey, 1st, J. M. Merchant; 2d, Robert Nivens; 3d, Thomas M. Pierce.

Best complete hive for extrated honey, 1st. A. M. Cole; 2d, Thomas M. Pierce; 3d, J. M. Merchant.

Largest and most useful collection of bee-keepers' instruments and supplies, 1st, R. Nivens.

Best new apiarian instrument exhibited by inventor, diploma, Arthur C. Miller.

Best honey extractor, 1st, Robert Nivens; 2d, A. M. Cole.

Best wax extractor, premium, Arthur C. Miller.

Best honey-vinegar, not less than a quart, premium, Samuel W. Lewis.

Sweepstake for best exhibit in this division, exclusive of implements and supplies, society's diploma, Arthur C. Miller.

La Grippe again appears and claims its victims. It is early, and will no doubt reap a large harvest before next summer. Already quite a number of cases are reported among bee-men—the latest being our friend J. M. Hambaugh, of Spring, Ills., who reports thus:

I was taken down sick about Sept. 8, since which time I have scarcely been able to leave my room, and a goodly portion of the time I have been bedfast. My malady is *La Grippe*. I have had to subdue the fever on myself twice, and though my physician pronounces me better, I am still quite feeble.

We well known how to sympathize with friend Hambaugh and others who have had a visit from that very disagreeable malady. It takes four months to get over its attack, and we hope never to have another such a tussel. It weakens the constitution, destroys the energy, and makes life a burden.

Honey Shower.—The San Bernardino *Courier* gives the following "story" about a honey shower, which it claimed was seen and felt in a dry canyon in Southern California. The *Courier* also calls it "manna." "What was it?" or "Did anything like it ever occur?" That's the question. It says:

Two days ago five gentlemen of this place drove away in a carriage, taking with them guns and cooking utensils. Bringing up about noon near a spring in a dry canyon, they kindled a fire for preparing lunch. As soon as frying-pan and coffee-pot began doing duty over the burning fagots, honey in lumps from the size of drops to gobs larger than human fists—rained or fell into frying-pan or coffee-pot, sweetening cooking game and boiling coffee-water.

The startled Nimrods found that as the fire was reduced the honey-shower also diminished, and ceased entirely with its subsidence.

Not having vessels for saving the honey, the "favored-five" discoverers of this remarkable phenomenon decided to revisit the place a few days hence for conveying away in proper vessels the falling manna, of which they expected to secure quite a lot.

Full Height of Cells in comb foundation has been announced in Germany, as will be seen by the following item from the *Bienenvater aus Boehmen*, translated for us by the Rev. S. Roese:

What bee-keeper has not expressed the wish that a machine might be invented which would manufacture foundation in its natural size and height of cells? Such a machine was constructed a few years ago, but the instrument proved too expensive and impractical, and the matter was dropped and forgotten. Although the readers of the *Bienenvater* have, up to date, never read an article from my pen in their paper, yet I cannot refrain from making known to them the greatest discovery since the days of Dzierzon. It is for the general interest of the bee-keeping world, to know, as soon as possible, that a machine has been invented, which will make foundation comb, with cells 20 millimeters high.

When the inventor of this machine—Herr Caccan Beyer, of Olbernhon, Saxony—informed me of this invention, I believed it to be a humbug, and many a reader of this paper will express himself the same way; but I guarantee that it is the honest truth.

The "Edi Comb Foundation" is the name for the new foundation, which will cause a thorough revolution in the manufacture of foundation comb. G. ADOLPHSON.

Wytigon, Zurich.

Similar announcements have been made in America by Weed Bros., but every time a test has been made a failure is the result, with a promise of a success the next time.

But we would ask, of what possible value can such an "invention" be to apiarists? The simple fact that it must be boxed for shipping a few sheets at a time, would practically make it valueless.

G. W. Ingram, of Tempe, Arizona, has a bee-ranch and apiary for sale at a bargain.

All Who Subscribe for the AMERICAN BEE JOURNAL can hereafter have our ILLUSTRATED HOME JOURNAL also, from the time their subscriptions are received to Jan. 1. 1892—both papers for only **$1.35.** We can also furnish *Gleanings in Bee-Culture* for same time with the above, for **$2.15** for all three periodicals This is an offer that should be accepted by all who keep bees, and desire the regular visits of these standard publications—all three periodicals from now to Jan. 1, 1892, for the price named.

Handling Bees.—This is the title of a nice pamphlet containing 28 pages and a cover, published by Chas. Dadant & Son. It is a chapter from their book, Langstroth Revised, and is an excellent thing for beginners. Price, 8 cts. For sale at this office.

The International Convention will be held in the G. A. R. Hall, Estes House, Keokuk, Iowa, Oct. 29, 30 and 31, 1890.

PROGRAMME.

First Day—Wednesday, Oct. 29.

9:00 A.M.—Call to order. Reception of new Members. Payment of Dues. Appointment of Committees for Question-Box and other purposes.

10:00 A.M.—Address of Welcome—J. E. Craig, Mayor of Keokuk.

RECESS.

11:00 A.M.—"Fifty Years' Progress in Apiculture."—Thomas G. Newman, Editor of the American Bee Journal, Chicago.

QUESTION-BOX.

1:30 P.M.—"Apicultural Journalism."—W. Z. Hutchinson, Editor of the Bee-Keepers' Review, Flint, Mich.

DISCUSSION.

3:00 P.M.—President's Address.—Hon. R. L. Taylor, Lapeer, Mich.

3:30 P.M.—"Honey Pasturage of the United States."—A. I. Root, Editor of Gleanings in Bee-Culture, Medina, Ohio.

DISCUSSION.

QUESTION-BOX.

7:00 P.M.—"Apiarian Exhibit at the Coming Chicago International Fair."—Dr. A. B. Mason, Auburndale, Ohio.

DISCUSSION.

QUESTION-BOX.

Second Day—Thursday, Oct. 30.

8:30 A.M.—"What I don't know about Bee-Keeping."—Dr. C. C. Miller, Marengo, Ills.

DISCUSSION.

11:00 A.M.—Condensed Reports of the Affiliated Associations in regard to Crops and Prospects.

QUESTION-BOX.

1:30 P.M.—"Is it best to use full sheets of Foundation in Brood and Surplus Frames?"—Eugene Secor, Forest City, Iowa.

DISCUSSION.

3:00 P.M.—"Fixed Frames versus Suspended Frames."—Ernest R. Root, Medina, Ohio.

DISCUSSION.

7:00 P.M.—"The conditions necessary to insure a Honey Crop."—Prof. A. J. Cook, Agricultural College, Mich.

DISCUSSION.

QUESTION-BOX.

Third Day—Friday, Oct. 31.

8:30 A.M.—Business of the Association. Secretary's and Treasurer's Reports. Election of Officers.

11:00 A.M.—"In an Apiary run for Honey only, are Italians or Hybrids preferable?"—C. F. Muth, Cincinnati, Ohio.

1:30 P.M.—Volunteer contributions from different sources.

3:00 P.M.—"The International Bee-Association. Its past and future."—W. F. Clarke, Guelph, Ont., Canada.

The Question-Box Committee will receive questions at any time, and will appoint different members to answer those that are deemed of sufficient interest or importance.

As this is the first meeting of this International Bee-Association held West of the Mississippi, it is hoped that the Western bee-keepers will make an effort to show what the West can do. A number of ladies are expected, as usual. The essayists named in the programme will nearly all be present.

A special room on the same floor as the G. A. R. Hall, has been secured for exhibits of bees or their products, or implements, and a special committee will report as to their merits. Articles for exhibition, if prepaid to Keokuk and addressed to the Secretary, will be delivered in the proper place free of charge.

The Hotel Keokuk, one of the best hotels in the West, a $3.00 house, will take members at $2.00 per day. The McCarty Boarding, in the Estes House, on same floor as the G. A. R. Hall, will board members at $1.00 per day.

Parties wishing to attend will be freely furnished all necessary information. Reduced Railroad Rates are not to be had.

C. P. DADANT, Secretary,
Hamilton, Ills.

Autumn and the Bees.

Written for Scribner's Monthly

BY DUNCAN C. SCOTT.

Sing me a song of the autumn clear,
With the mellow days and the ruddy eves;
Sing me a song of the ending year,
With the piled up sheaves.

Sing me a song of the apple bowers,
Of the great grapes the vine-field yields,
Of the ripe peaches bright as flowers,
And the rich hop fields.

Sing me a song of the fallen mast,
Of the soft odor the pomace sheds,
Of the purple beets left last
In the garden beds.

Sing me a song of the toiling *bees*,
Of the long flight and the honey won,
Of the white hives under the apple trees
In the hazy sun.

Sing me a song of the thyme and the sage,
Of sweet marjoram in the garden gray,
Where goes my love Armitage
Pulling the summer savory.

Sing me a song of the red deep,
The long glow the sun leaves,
Of the swallows taking a last sleep
In the barn eaves.

QUERIES and REPLIES.

How Long from a Capped Cell Until the Queen Lays?

Written for the American Bee Journal

QUERY 734.—If a colony has a capped queen-cell, and no queen, and did not swarm when the queen-cell hatched, how long would it be until there ought to be eggs in the combs?—F.

Usually 8 or 10 days.—A. B. MASON.

In about 12 or 15 days.—J. P. H. BROWN.

From 14 to 20 days.—A. J. COOK.

She certainly ought to be laying in a week after emerging from the cell.—EUGENE SECOR.

A queen usually commences to lay when she is from 8 to 12 days old.—G. M. DOOLITTLE.

Six to 12 days, according to the more or less maturity of the sealed queen.—DADANT & SON.

Sometimes 8 days from the time the young queen hatches, oftener 10, and sometimes 16.—C. C. MILLER.

There ought to be eggs in the combs in from 10 to 12 days after the queen hatches.—C. H. DIBBERN.

It would be from 8 to 12 or 14 days. It depends upon what stage of development the capped queen-cell is in.—JAMES HEDDON

That would depend upon how long the cell had been capped. Eggs should be found in from 8 to 15 days after the cell hatches, owing to the weather.—R. L. TAYLOR.

Sixteen days from the egg to the perfect queen; ordinarily the queen should be laying in two weeks after she is hatched.—MRS. L. HARRISON.

Much will depend upon the weather and other conditions. Under favorable conditions, there ought to be eggs in from 8 to 12 days from the time the queen hatches.—M. MAHIN.

The queen-cell, if just capped, would hatch in about 8 days; in 6 days she may mate, and in two days more be laying. This would be the shortest possible time, in my experience.—G. L. TINKER.

In the case you mention there ought to be eggs discovered in the combs, if the search for them is carefully made, on the 10th or 12th day after the cell hatched. Young queens usually begin to lay eggs at about 10 days old.—G. W. DEMAREE.

There is some considerable latitude in this query. As I understand the question, it will depend wholly upon the length of time it takes the queen to mate. Usually 4 or 5 days. Viewing the question from another point, it might be from 8 to 10 days.—J. E. POND.

From 8 to 10 days from the time the queen is hatched, we generally see the first eggs; but as it often depends upon circumstances, it may be longer. If after 10 days you see no eggs, and cannot find the queen, give a frame of eggs and young brood, and if no queen, the bees will start cells, etc.—P. L. VIALLON.

That depends upon how long the queen-cell has been capped, and the success attending the wedding-flight of the queen. Usually she will lay her first eggs when she is from 8 to 10 days old.—THE EDITOR.

Silk Paper in Hives.—A correspondent from Iowa wrote as follows to the Chicago *Herald*:

Inclosed find piece of something that was formed on the inside of the cap of a bee-hive that was standing empty. Nearly the whole inside of the cap was covered with it, and it peeled off easily. I would like to know what it is, and how it was formed.

J. F. B.

It was submitted to Prof. G. A. Forbes, the Illinois State Entomologist, who replied thus:

The very curious specimen sent by your Iowa correspondent is a delicate, unsized silk paper, formed apparently by some spinning insect whose web is much finer than that of the silk-worm. The bees themselves cannot have made this paper, as they spin only in the larva or maggot state when inclosed, helpless, in their cells.

The bee-moth is a great spinner of a very fine web, and is a common pest of neglected hives, but I do not know that it ever makes any such a smooth and continuous tissue as this. G. A. FORBES.

Convention Notices.

☞ The 8th semi-annual meeting of the Susquehanna County Bee-Keepers' Association will be held at Montrose, Pa., on Thursday, MAY 7, 1891.

H. M. SEELEY, Sec.

☞ The next meeting of the Turkey Hill Bee-Keepers' Association, will be held at the Turkey Hill Grange Hall, near Wilderman's Station, three miles southeast of Belleville, Ills., on Oct. 30, 1890. All interested in bee-keeping are cordially invited.

A. FEHR, Sec.

☞ The Missouri State Bee-Keepers' Association will meet at Mexico, Mo., on Oct. 22 and 23, 1890. A good programme, and an instructive and interesting time are expected. All are invited to attend. Board can be obtained for 75 cts. per day, or 20 cts. a meal.

J. W. ROUSE, Sec., Mexico, Mo.

CORRESPONDENCE.

QUEENS.

The Introduction of Queen-Bees in the Fall.

Written for the American Bee Journal

BY G. M. DOOLITTLE.

Many seem to think that it is next to impossible to introduce queens in the fall, after brood-rearing has ceased for the season, as my correspondence has shown during this season of the year, for years past, as I am often asked if it would be wisdom to purchase queens in September and October to replace old and worn out queens; for, say they, "There will be much risk to take in trying to introduce queens at this time of the year."

Now all of my experience goes to prove that queens can be introduced more easily in the months named above than at any other season of the year. When it comes to finding the old queen, this is more easily done when she is laying, but after she is found, the new queen can be introduced with a certainty not always apparent at other seasons of the year.

At this season of the year there is no hurry, from the desire to have the queen go to laying as soon as possible, as is the case during the spring and summer months, for we do not expect that she will lay any for the next three months, no matter how soon she may be accepted; hence she can stay caged for an indefinite period without harm to either herself or the colony she is to preside over. For this reason, I most generally use the following plan:

Take a piece of wire-cloth having 14 meshes to the inch, cutting the same so that it is 4½ inches wide by 7½ long. From each of the four corners, cut out a little square which shall be ¾-inch on all sides. Next get out a block 3 inches wide by 6 long, and after having placed it in the right position on the wire-cloth, bend up each of the four sides around the block so that you will have a box, as it were, of the wire-cloth which will be 6 inches long, 3 inches wide, and ¾ inches deep. Now unravel four wires from each of the four sides, when you will have a cage that is the most handy in introducing queens of anything which I know of.

Having removed the old queen, and having the one to be introduced, in a small, round wire-cloth cage, shake the bees all off from one of the central combs in the hive, when the new queen is allowed to run on this comb and the introducing-cage placed over her in such a position that a part of it will be over some unsealed honey. If the queen's wing is not clipped, take the comb into a room in letting her on the comb.

Now press the points of the wire-cloth, which were made by unraveling the sides, into the comb till the horizontal wires touch the surface of the comb, seeing that the corners so come together that the queen cannot get out, nor any outside bees get in, when the frame is to be put back into the hive, leaving the frame next to it off far enough so that there will then be a bee-space between the cage and this last-named comb.

The hive is to be closed now, and left from a week to two weeks, according to the weather, as there is no need of opening the hive on any certain day.

On some moderately warm day when the hive can be opened without danger of chilling the bees, and when it is not so warm that robbers will be troublesome, remove the frame having the cage on it, and lift the cage from over the queen, allowing her to go where she pleases. As the bees have no material from which to rear a queen, they must accept the one given them, and under such circumstances I have known one to be killed, and I have practiced this plan more or less for the past ten years.

UNITING WHEN INTRODUCING.

If the queens to be introduced are in your own yard, and you wish to unite two or more colonies at the same time, I find there is no trouble in putting the colonies together on any cool, cloudy day, when the bees are not flying. In uniting in this way, the inferior queens should be disposed of a few days previous to the uniting, and all the combs taken away from each which are not wanted in the hive where the united colony is to remain. In other words, allow only as many combs in the different hives as will go into one hive. The combs having the queen with them, should be placed close to one side of the hive, while those that are to be carried to this hive when uniting, should be left in the middle of the hive, and somewhat spread apart so that when you come to carry these latter combs, the bees may all be clustered on them, rather than on the sides of the hive.

Now by means of all of the fingers, or some other device, raise all the combs at once, so as not to break the cluster of bees, and put them in the other hive, right by the side of those already there, and so on until you have all in you wish. After closing the hive, remove the hives and bottom-boards which have been emptied, piling them away for the time being, so that the "old home" will not be there when the bees fly the next time, and you will have no trouble about the bees going back to their former location. To be sure, some will fly about over the place, but so far as my observation goes, these all return to the united colony, upon not finding any hive on their old stand.

I consider this the easiest and best plan of fall introduction of queens, and the uniting of colonies at the same time, of anything I have ever tried.

ANOTHER WAY OF INTRODUCING.

There is another plan of introducing queens which I have practiced with good results, which is as follows: When a queen is expected to arrive in two or three days, I go to the hive which is to receive her, and remove the old queen, keeping her so that she may be used in any case of emergency, until I am sure she will not be needed, when she is killed.

When the new queen arrives, I take out the central frame, or the one having the most bees upon it, and set it down outside of the hive, and place the queen among the bees, keeping watch of her. If the bees treat her kindly, I take another frame from the hive, and put it bee-space from the first, so that the queen is between them, leaving them thus for about an hour, and going to them occasionally and opening the frames to see that the queen is not balled, which thing does not happen one time in ten. The frames are now lifted together and set in the hive, when all is well.

Should the queen be balled, she must be liberated and caged as in the first plan. In times of robbing, do this work just at night, so as to avoid it.

Borodino, N. Y.

INTERNATIONAL.

Shall It Meet at Lake George, N. Y., in 1891?

Written for the American Bee Journal

BY J. H. LARRABEE.

I was much pleased to notice, on page 647, the suggestions by Mr. Ernest R. Root, as to the location of the International Bee-Association for 1891. I might perhaps be accused of having a personal interest in advocating Lake George as a place of meeting, but as Mr. Root has introduced the subject, and, as he as a "foreigner" was so well pleased with the place, perhaps I may be excused for supplementing his suggestions with some others which occur to me as reasons why a grand meeting of our greatest bee-association could be held on the shores of this lake.

The fame of Lake George is world-wide. Its Indian name of "Horicon," and its French Jesuit name of "St. Sacrament," are more expressive of its beauty than its English name. The gray granite mountains, whose grim faces and ragged crests are toned and softened by the varied green of its forest coat, plunge down directly into the crystal water, or, as though fearful of their own images in those mystic depths, have retreated back from the water's edge just far enough to afford the most enchanting spots for hotels, country villas and parks. Every genuine bee-keeper is a lover of nature, and to him this spot is full of food for enjoyment. Rev. Joseph Cook, the great Boston Monday lecturer, has erected a summer house upon one of these rocky heights, and has placed this sentiment in a conspicuous place: "Here let every honest American sit down, look about him, thank God, and take courage." The surface of the lake is dotted with scores—yes, hundreds—of the most beautiful wooded islands. These islands are owned by the State, and it is misdemeanor to even cut a tree or bush thereon; thereby is preserved their virgin beauty.

Now as to accommodations and mode of access to the place: There are scores of first-class hotels along its shores, open only during the summer season, and as the association ought to meet about Sept. 20, almost any of them would be glad of so much extra patronage to round out the short season, even at much reduced rates. The Lake is, at Caldwell, the southern end, connected by rail with Albany, only about 50 miles distant. At the northern end, it is also connected by rail with the main line of the Delaware & Hudson railroad—the direct route between Albany and Montreal. Two large steamers ply on the Lake during the season.

Should the meeting be held here, it will not only draw a large attendance from Vermont, Massachusetts and New York, but also from Maine and from Eastern Canada many would come. During the season of summer travel, excursion round-trip tickets are sold from all the principal points to this summer resort.

Should it be decided to hold the meeting east of Buffalo, I think that no more "drawing" place could be chosen, partly from its natural attractions, partly from its convenience of access, and partly from the very novelty of the idea of holding a bee-keepers' convention at such a place. Come to this "Como" of America, and we will do our humble best to afford an enjoyable time to all.

Larrabee's Point, Vt.

MARKETING.

Importance of Having Honey in Good Condition.

Written for the American Bee Journal

BY J. W. TEFFT.

Honey, if placed on the market only half cured, and unripe, or in soiled sections, in crates and jars, pails, cans or paste-board boxes, generally spoils the market for weeks thereafter. People buy such honey because it looks passably well, and try it, then pronounce it unfit to eat, which is the truth, and they cannot be induced to buy again for sometime. Wait, therefore, as a matter of policy, as well as principle, until after you are sure there is no leaky or soiled packages, and sections well cleaned of propolis, and you are really sure the honey is ripe and fit to eat. Follow this rule implicitly with late fall honey also, then whoever buys of you will buy again, and the whole family will be eager for more and more, as the season advances, and the consumption will be greatly increased, and prices maintained.

This is a substantial gain, for all ripe honey, ripened by the bees, will weigh more than unripe honey, and is less likely to shrink and shrivel or sour, as unripened honey taken from the bees only a day or two after begins to present a watery, sickly appearance.

It may truthfully be asserted that, as a general rule, unripe honey is the principal cause of the gluts in the market. There is no excuse for shipping soiled, unripe honey at the opening of the season, or any time thereafter; with proper distribution of shipping, and by shipping in reasonable amounts, no market glut can long continue, if the honey is of good quality.

Gathering honey should always be done on a warm, dry day, and the packing-trays kept clean, neat and dry—they should not be allowed outside the packing-house, or other shelter. If the honey is being gathered for table use, too much care cannot be exercised in removing the propolis, and handling the sections so as not to break the cappings, or mar them in packing, taking all imperfect sections to sell as second grade.

The same constant care is requisite in order that they may go into shipping-crates as nearly perfect as possible, and reach the consumer in the very best condition and order. Good, ripe honey in clean crates will exclude all unripe or soiled honey. Inferior honey should be packed and shipped as second grade.

We are aware that this year's crop of honey was small, and should command a high price, provided that the honey is ripe, and of good average quality, being properly gathered and packed; then sending none but ripe honey to market, and not being in a hurry to rush all to the front as soon as fit to ship, the honey-producer who has any surplus honey, will gather a harvest from the bees this year.

Buffalo, N. Y.

ORANGE-BLOOM.

Honey Secured from Orange-Blossoms in Florida.

Written for the American Bee Journal

BY M. D. FISHER.

I notice on page 644, an article on "orange-blossom honey." I wish, by way of emphasis, to add to the testimony of Mr. Crutcher, in reference to the possibility of obtaining exclusive orange honey. I have extracted it when it was being brought in in such abundance, that with equal propriety one might ask whether linden or white clover ever secretes nectar in quantities sufficient for identification.

As to quality, to my sense of taste the flavor of this honey is as superior to any other, as to my sense of smell. The aroma of the orange-blossoms is superior to that of all others—an aroma so dense and penetrating that the bees from remotest regions are apprised of these "El Doradoes" of bloom—the orange-groves.

Orange and palmetto are the principal sources from which nectar is obtained in locations away from the coast, but on the Atlantic coast the mango tree furnishes honey in such abundance, that apiculture is made an exclusive avocation, vying with orange-growing, and truck-gardening as a means of profit.

In reference to Florida as a bee-keeping State, my advice would be, consider before exchanging a latitude where all vegetation has a period of dormancy, for a land of continual bloom. To the novice, this advice would seem ridiculous, but, to Mr. Crutcher, doubtless my meaning is apparent.

Perhaps Mr. Crutcher, or some other apiculturist will give the readers of the BEE JOURNAL some information on this subject: What is the effect of the energies of the queen, and the general condition of the colony, when small quantities of honey are being continually brought in, as is the case in Florida after the orange and palmetto yield?

Allen's Hill, N. Y.

BEES AND FRUIT.

The Fertilization of Plants by Bees.

Report of U.S.Department of Agriculture

BY SAMUEL CUSHMAN.

We do not hesitate to claim that the honey and wax crop is not the most valuable result of bee-keeping, but that the principal value of bees to man is their work of carrying pollen from flower to flower.

That they do this is generally overlooked, or the fact when known is undervalued.

Naturalists tell us that honey is Nature's bait by which bees are induced to take and distribute the fertilizing material. While pollen is distributed among certain blossoms by both insects and the wind, others are so shaped as to be wholly dependent upon the visits of bees.

"The bee takes to give honey but a fraction of her labors. Man has timely help that he knows not of."

INSECTS AND PLANT FERTILIZATION.

(Introduction by the editor of the *American Agriculturist*, to six articles on the above subject, which commenced in that publication, May 1866.)

"The part played by insects in the fertilization of flowers, *i. e.*, in the carrying of the pollen, or fertilizing dust from the anther which produces it to the stigma or that part of the pistil designed to receive it, is a subject now receiving much attention at the hands of naturalists.

"It not only affords an interesting study to the curious observer, but the fact itself is of importance to the cultivator, as some of our products depend upon the aid of insects for their perfection, and *probably the fruitfulness of many of them is largely influenced by the abundance or scarcity of bees and other honey and pollen seekers.* Prof. Gray, of Harvard University, the distinguished botanist, has consented to give us, in a series of articles, his observation upon the relation of insects to plants."

We quote from Prof. Gray's articles:

"This sweet matter which flowers so generously produce is, so far as we know, of no direct use to the plant. That insects, in visiting flowers for honey, accidentally or incidentally aid in fertilization, by carrying pollen from anther to stigma, is familiarly understood."

"We cannot resist the conclusion that the aid of insects is, so to say, counted upon, that the blossoms are furnished with honey in order that they may attract insects."

"Why should insects be called in to do that which, by a little different arrangement, would be done by the flower itself?"

"The key to the solution of the riddle he (Charles Darwin) found in the principle, recognized by breeders, that close breeding tended to sterility and debility, while cross breeding among different individuals of the same species avoids this tendency."

"A bee cannot take the honey from an Iris flower without carrying off on its rough head some pollen from the anthers it must rub against. It cannot well take the honey from the next flower of the sort it flies to without depositing some of this pollen on the stigma as it seeks its feeding place." Speaking of orchids, he says: "To cross the flower of the species is plainly the object of the whole contrivance, and an admirable contrivance it is, by which winged insects are solicited to do the work for sedentary flowers.

"Most of our common, brightly colored blossoms, and many that are not at all showy, plainly reveal on inspection their adaptation to cross fertilization by the aid of insects."

"We need not multiply examples. Every garden and every field offers equally good examples—lessons which anybody may read and understand if he will only open his eyes."

"Are all flowers then, it may be asked, aided by insects in the essential business of forming seeds? By no means. In many cases the transport of pollen is left to the winds. Such flowers produce no honey, nor anything attractive to insects, and such flowers, we may add, have no showy corolla. So we may conclude that corollas, or bright colors in any part of the blossom, and also fragrance, are given to plants in order that they may attract insects, and be aided by them; an aid which many of them are absolutely dependent on."

"Pines, spruces and the like, are left to the wind to fertilize."

"Grasses and grains also depend upon the wind, and have accordingly a vast excess of pollen."

"No plant is known in which at least an occasional cross-breeding is not provided for."...."The pollen is powerless, or nearly so, upon the stigma of the same flower, but is efficient upon the stigma of neighboring flowers; and that breeding in and in, which seemed unavoidable from the structure of the blossom, is here prevented only by the differentiation of the pollen and stigma."

The following is from Silliman's Journal, 1862: "We all know how essential plants, and especially their flowers, are to the existence of the multitudinous swarms and tribes of insects, but it is hardly understood that the benefit is reciprocal—that in the long run, insects are also essential to the continued existence of many, if not of most species."—*Prof. Asa Gray.*

"In by far the greater number of flowering plants we find both the male and female element in the same flower, or, in other words, such plants are hermaphrodites. One would naturally suppose that there could be but one object in thus placing the sexual elements in such immediate juxtaposition, namely, that each pistil might be fertilized by its own pollen or male element. Late researches have, however, made it evident that often among plants, the nuptials cannot be celebrated without the intervention of a third party, to act as a marriage priest; and that the office of this third party is to unite the representatives of different households. To be specific, seed capsules are most productive when their ovules are fertilized by pollen from another plant or flower of the same plant. Breeding in and in can by absolute experiment, be proven to produce a degenerate offspring in the vegetable kingdom no less than in the human race. Now the marriage priests who officiate are insects in search of honey, the winds, or anything which by accident or design may carry the pollen from one flower to another."—*J. F. Rothbeck, American Naturalist, 1868.*

"Mr. Charles Darwin and other botanists have proved beyond a doubt, that some flowers, in which pollen may easily gain access to the stigma of the same flower, are sterile unless fertilized by pollen borne from other flowers, while many are much more productive by a cross fertilization.

"Bees are willing agents here, as in other instances, alighting first on the stigma of the oldest flowers, which are farthest down the stem, and then passing up to others which are younger. Besides collecting nectar at the bottom of the flower, they collect the pollen by scraping the style upon each side with their legs, and when calling at the next flower, first strike the exposed stigma, leaving a few little morsels as tribute for the bountiful supply."—*W. J. Beal, on "Agency of Insects in Fertilizing Plants," American Naturalist, 1868.*

"THE GREAT IMPROVEMENT OF THE STRAWBERRY

has been brought about by cross-fertilization and selection of the best of each kind. Nature apparently is not willing to develop a luscious receptacle or berry unless she in turn can use it as a resting place for seeds."—*Minnesota Experiment Station Bulletin.*

"Orchards in which bee-hives are placed bear heavier crops than those not thus favored. Bees are in Europe

profitably introduced into peach houses in order to effect the pollination of the flowers."—*Packard's Entomology for Beginners.*

At one time, we are informed, a person living in Pawtucket, attempted to grow strawberries under glass. He raised plenty of vines and blossoms, but they produced no fruit. Some one who knew, told him why, and when bees were procured the blossoms matured and produced fruit.

It is said that if strawberry blossoms are covered with fine muslin they drop off instead of maturing, but if fertilized artificially by hand they mature. Some of the best bearing varieties of strawberries only produce female blossoms or pistils, the Crescent Seedling being an example, therefore growers of this fruit have one row in every seven of a kind having an abundance of pollen, and that blossoms at the same time.

WHEN RED CLOVER WAS FIRST BROUGHT INTO AUSTRALIA,

although fine crops were raised, with plenty of blossoms, no seed could be secured. At last some one sent to England for "bumble-bees."

They were procured in winter, while dormant, by Mr. Abbott, a prominent English bee-keeper; were sent in that condition, and successfully introduced. As soon as they became plenty there was no further trouble in securing a full crop of seed.

Honey-bees work on second crop in this country at times.

Prof. Lucas, a celebrated pomologist in Germany, says: "A careful and observant bee-keeper at Potsdam writes to me that his trees yield decidedly larger crops since he has established an apiary in his orchard, and the annual product is now more certain and regular than before, though his trees had always received due attention."—*American Bee Journal.*

FERTILIZATION OF APPLE-BLOSSOMS.

Frank Cheshire says that in each apple matured, five fertilizations have been necessary. If none are effected, the calyx which forms the flesh of the fruit, instead of swelling, dies and soon drops. If some parts are fertilized those parts only develop, making a deformed fruit, and it rarely hangs long enough to ripen; becomes a windfall; also that gooseberries are absolutely dependent upon insects for fertilization, and the failure of this crop is not so uniformly the result of frost as some suppose, but from cold weather at the critical time, preventing the visits of bees. He believes the present development of the perfume, nectar secretion, size, and beauty of flowers are the results of repeated insect selection.

IMMEDIATE EFFECTS OF CROSS-FERTILIZATION ON THE FRUIT.

Not only do the highest authorities claim that insects are of the utmost importance for the fertilization of many fruits, seeds and vegetables, but that the fruit is in many cases immediately affected favorably or unfavorably according to the source of the pollen, thus guiding whatever feeds upon the fruit to select that having the seed best fitted for propagation.

"Among strawberry growers it is widely believed that the berries of pistillate varieties will vary in character according to the staminate variety which furnishes the pollen. As many of the best varieties of strawberries are pistillate, and require to be fertilized by some perfect flowered variety, it becomes important to know with certainty whether such influence exists or not."—*A. A. Crague, U. S. Agricultural Report.*

Chas. Darwin, Dr. Gray, D. M. Ferry and others admit the possibility of this. Others believe that the more plenty the pollen the greater this influence.

"I have always thought that the more abundant the pollen, and consequently more perfect pollinization afforded by some varieties, had as much to do with the result as any true effect of the cross fertilization."—*F. S. Earle, U. S. Agricultural Report.*

"We know it is claimed by some that peas and beans are self-fertilized, but we have learned that they are not always so, to our cost.

"A shower of rain washes away the pollen, and our apple crop fails in consequence. The young fruit does not swell, but shrinks and falls."..... "It is believed that the pollen affects the tissue of the fruit itself."..... "Where then shall we limit the action of the fertilizing element of the pollen? I am inclined to believe that it really has no limit, but that it is capable of extending through the whole plant."—*D. M. Ferry, Detroit, Mich., U. S. Agricultural Report.*

As Cheshire expresses it, bees are not only florists, but fruit producers, and the nectar and pollen is simply the fee paid for the professional service of the little inoculator.

Bumble-bees, wasps, butterflies and many other insects by day, as well as moths and the various insects of the night, do much of this work. They, however, must take their chances of surviving winter's cold or summer's wet, or drouth with its scarcity, and may be terribly thinned out in consequence.

Honey-bees, which are doubly man's friend, may by him be fed and protected as well as bred in any quantity, and taken wherever they may be needed.

They seem to best suited to the flowers of our most important crops needing insect help.

"In Herman Muller's celebrated work (German), 'Fertilization of Flowers by Insects,' there is a full description of 338 species of plants that are proved, by careful observation of many years, to be visited and fertilized by insects. This is about one-fifth of all the plants flowering in the open country in Germany. *The honey-bee alone visits 194 species,* being half the number of plants examined."—*British Bee Journal.*

DO BEES INJURE FRUIT?

Prof. Riley, speaking of the many insects injurious to vegetation, and the few that are beneficial, says, "The ability to distinguish between friend and foe is of the first importance in coping with the latter, for it is a notorious fact that the farmer often does more harm than good by destroying the former, in his blind efforts to save his crops."—"*General truths in applied Entomology,*" *U. S. Agricultural Report,* 1884.

He says in a later Report, 1885, "Apiculture as an important branch of economic entomology, deserves attention, and there are some questions which this department can, perhaps, better consider than private individuals or associations. Mr. Nelson W. McLain was, therefore, appointed as special apicultural agent of the division," June 1, 1885.

One of the various subjects given for investigation was, "To obtain uncontestible results by intelligent experiment on scientific methods, as to the capacity of bees under exceptional circumstances to injure fruit, *i. e.*, to set at rest the ever discussed question of bees *vs.* fruit." As to results of these investigations, he says, "The experiments show conclusively that bees do not injure fruit at first hand, and this fact is in keeping with the structure of the mandibles as compared with those of wasps which are generally charged with the real injury."—*C. V. Riley in Report of the Entomologist, U. S. Agricultural Report,* 1886, *page* 211, 212.

Hives of bees were confined to a bee-proof building, made so by enclosing its open sides with wire-cloth. Plates of grapes, peaches, pears and plums, varying from green to dead ripe, were placed on shelves in this enclosure. The bees were then deprived of stores, and left with the exposed fruit as their only relief from hunger, thirst and starvation. We extract the following from Prof. McLain's Report, page 337, 1885.

"They daily visited the fruit in great numbers, and labored diligently to improve the only remaining source of subsistence. They inspected and took what advantage they could of every opening at the stem or crack in the epidermis or puncture made by insects which deposit their eggs in the skin of grapes. They regarded the epidermis of the peaches, pears, plums and other fruits having a thick covering simply as subjects for inquiry and investigation, and not objects for attack.

If the grape-skin be broken or removed, they will, in the case of need, lap and suck the juices exposed. The same was also true of the grapes, if the skin was broken by violence or burst on account of the fruit becoming over-ripe; the bees lapped and sucked the juices from the exposed parts of grapes and stored it in cells for food. They made no attempt to grasp the cuticle of grapes with their mandibles, or with their claws. If the grapes were cut open or burst from over-ripeness, the bees would lap and suck the juices from the exposed segments of the grape until they came to the film separating the exposed and broken segments from the unbroken segments. Through and beyond the film separating the segments they appear to be unable to penetrate. I removed the outer skin from many grapes of different kinds, taking care not to rupture the film surrounding the pulp. When these were exposed to the bees, they continued to lap and suck the juices from the outer film until it was dry and smooth as was the film between broken and unbroken segments. They showed no disposition to use their jaws or claws, and the outer film as well as the film between broken segments remained whole until the pulp decayed and dried up."

"After continuing the test for thirty days we sent to Michigan for varieties not obtainable here," another colony of Italian bees were added to the rest, and twenty varieties of grapes being exposed upon plates and suspended from the rafters. "The conditions naturally prevalent during a severe and protracted drouth were again produced, and the test again continued for 25 days." "The bees showed no more capacity or disposition to offer violence to one variety of grapes than another. No more attention was given the thin skinned varieties than the thick skinned. As long as the skin remained whole they did not harm the grapes. When the skins were broken by violence, such as by cutting or squeezing, the juices exposed were appropriated.

The extent of damage the bees could do to grapes which burst from over-ripeness, depended on the extent of the rupture in the film surrounding the pulp. A wide rupture may be made in the epidermis, or it may be removed, and if the film is unbroken the pulp remains whole. The film seldom bursts until the grape is about to decay, or has begun to decay, and then the grape is of little value."

Page 338. "Many erroneously suppose that bees sting the grapes. Bees never sting except in self-defense, or in defense of their homes from real or imaginary danger."

"The evidence then shows that bees do not injure perfect fruit. We have observed that they give no attention to the puncture and blight caused by the ovipositing of other insects, until after the larva is hatched and decay has set in, and then only in cases of extremity.

"The circumstances under which bees appear to be able to injure grapes are very exceptional. That they will not molest or even visit grapes when it is possible to secure forage elsewhere is certain. It also appears certain that they never attempt violence to the skin of grapes. The capacity of bees to injure over-ripe grapes is limited by the extent to which the juice and pulp are exposed by the bursting of the film. If the film is only slightly bursted the bees can do but little injury. If the progress of decay has caused a wide rupture in the film, the bees more readily appropriate the juice."

"Mr. Richard Rees, a florist and horticulturist of many years experience in the Eastern and Western States, informs me that he has very carefully observed the effect of bees upon flowers and fruits in the orchard, garden and greenhouse. He regards their presence as wholly desirable and altogether beneficial. During a term of four years he had charge of a large conservatory and garden in this city. At times he had as many as fourteen different varieties of exotic grapes in bearing in the conservatory, and from two to three tons of ripe grapes hanging on the vines at once. A large apiary was located near by, and late in the fall and early in the spring the flowers and fruits in the conservatory were visited by the bees in great numbers. The grapes were unmolested, and the bees aided in fertilizing the flowers.

"He says that he has had large experience in grape growing in vineyards, and that he has never known any damage or loss from bees, and that when grapes are burst from over-ripeness, or decayed and blighted by the hatching of insect larvæ, to such an extent that bees can appropriate the juices, they are of little, if any value. He has never kept any bees, but he regards them as being of great service to floriculturists and horticulturists on account of the service rendered in fertilizing blossoms."—*Prof. McLain's Report, page* 339.

(*Concluded next week.*)

STATISTICS.

The Kind Which are Incorrect and Misleading.

Written for the American Bee Journal

BY H. G. BURNET.

The following is from the "Report of the Statistician," in the report of the Secretary of Agriculture for 1889, page 251. I would like to call attention to the last paragraph. Will not this be taken as a confirmation of the Wiley lie, which is the basis of so many newspaper articles derogatory to our pursuit? Please ventilate the matter.

Alva, Fla.

Here is the Statistical Report which Mr. Burnet refers to:

BEE-KEEPING.—Among the minor branches of rural industry bee-keeping is one of the most important, though its prominence is not generally recognized, from the fact that it is almost everywhere carried on as an incident of general agriculture, and but rarely as a leading rural occupation.

Every State and Territory reports bees, and more or less honey, usually a hive or a few colonies for each farmer rather than extensive apiaries and large production.

In some localities, as in portions of New York, Ohio, Tennessee, and California, where existing conditions are particularly favorable, apiculture is more prominent, dominating other industries perhaps in a neighborhood, though very rarely the leading branch of agriculture over any considerable area.

The value of the annual product of honey and wax is not generally realized; they are produced more or less extensively in every section of the country, and the aggregate value is large, much larger than that of other crops of which more notice is usually taken. It almost equals the total value of the rice or the hop crop, falls but little short of the buckwheat product, exceeds the value of our cane molasses, and of both maple syrup and sugar. It largely exceeds the aggregate value of all our vegetable fibers excepting cotton, and 1879 was half as large as the wine product of the year.

The latest official record of production by States is the return of the national census for the year 1879. It made the honey production 25,743,208 pounds, and wax 1,105,689 pounds. After careful study of all available data of local values and market prices, the average farm value of the honey was estimated at 22 cents per pound, and the wax at 33 cents, making the aggregate value of apiarian products at the place of production, $6,028,383. The product of the principal States in that year was as follows:

STATES.	HONEY. Lbs.	WAX. Lbs.
Tennessee	2,130,689	86,421
New York	2,088,845	79,756
Ohio	1,626,847	56,333
North Carolina	1,591,590	126,286
Kentucky	1,500,565	46,912
Pennsylvania	1,415,093	46,610
Illinois	1,310,806	45,640
Iowa	1,310,138	39,565
Virginia	1,090,451	53,200
All other	11,678,184	524,984
Total	25,743,208	1,105,689

Under the head of "all other," in the above statement, there is grouped the production of 36 States and Territories, ranging from 1,056,034 pounds of honey in Georgia to 50 pounds in Idaho.

The census of 1870 was defective in its returns of product for many crops, and its record of honey and wax in 1869 is undoubtedly much too low. It made the honey product only 14,702,815 pounds, too low in the aggregate, though the falling off in all States indicates that it was a year of short production. Illinois was the leading State, with a crop of 1,500,000 pounds, while North Carolina stood second.

The returns in 1860 were more satisfactory, and they show that the product of 1859 was but slightly exceeded by the crop of 1879, after 20 years of growth. The production of wax was actually greater. Many States show a product greater than that of 1879, and the aggregates of 23,366,357 pounds of honey and 1,322,787 pounds of wax indicate that there has been a comparative decline of the industry, the increase of population being taken into consideration.

The nine States given in the preceding table as those of principal production in 1879, produced 14,000,000 pounds; the same States 20 years earlier had a record of 13,900,000 pounds. With our rapid annual increase of population, to stand still in aggregate production is to retrograde. A more striking way of showing the decline in the industry is by a study of the comparative supply of the product at widely separated periods.

Our foreign trade in honey has never been large, and the balance has fluctuated. During five years past our average annual exportation has been valued at only $82,489, and importation at $52,891, making the value of the net exportation only $29,598. This little exportation goes principally to the United Kingdom, France and Germany, while our foreign purchases come mainly from the West Indies and Mexico. The balance of trade is too small to effect the supply, and our domestic consumption is satisfied with our home production.

In 1859 our production was 23,366,357 pounds, and our net importation not far from 3,000,000 pounds, making the supply available for consumption that year approximate 26,000,000 pounds. On the basis of the population June 30, 1860, this was a *per capita* supply of eight-tenths of a pound.

Twenty years later, when tremendous advances had been made in almost every branch of industry, the production of honey only amounted to 25,743,208 pounds, and the official records actually show a net exportation of honey, or something shipped as honey, amounting to about 570,000 pounds, making the net supply available about 25,000,000 pounds, or a million pounds less than at the first period. The supply per head was less than five-tenths of a pound. During the same period the *per capita* consumption of sugar and other sweets increased. Wealth and the ability to gratify taste for luxuries are greater, and yet the data seem to show a reduced consumption of this luxurious sweet.

So anomalous does this appear that some explanation must be found. If the supply per individual unit had been the same in the last period as the first, it would have required a product of 40,000,000 pounds. What has taken the place of honey in domestic consumption? Does the enormous increase in the manufacture of glucose and other saccharine adulterants indicate that a fraudulent article makes up the remainder of the needed supply? Did our people in 1879 consume 15,000,000 pounds of substitutes in the belief that they had the genuine product of the hive? Such would be a reasonable explanation of the comparative decline in bee-keeping.

[The Statistical Table referred to from the Census Report of 1880, is manifestly incorrect. One simple item will show its error so palpably that no further words will be necessary. California's honey crop is the largest of any State, and yet in the Census Table it is credited with only about one-half as much as Arkansas, one of the States producing but comparatively a small amount of honey!

It also gives North Carolina credit for 50 per cent. more than Michigan, and more than Illinois or Iowa! Such "statistics" are very misleading, to say the least.

Our estimate, based upon statistics gathered by us some years ago, is that there are 300,000 bee-keepers in the United States and Canada, and the average annual product is one hundred millions of pounds of honey. Our Tabulated Statement by States may be found on page 320, of the BEE JOURNAL for 1881.

It is a notorious fact that the statistics given in the Census of 1880 are utterly unreliable! This was admitted by Col. C. D. Wright, Chief of the Bureau of Labor Statistics at Washington, who was one of the principal persons who directed the formulating of the Census of that year.

In an address delivered before the Social Science Association at Saratoga, N. Y., in 1887, Col. Wright reviewed the whole Census matter, and pointed out its shortcomings, and then said:

These two questions—capital invested and average wages—as answered by the Census, illustrate the fallacy of attempting to solve a certain line of economic questions through the Census as it has existed. In making this criticism, let it be understood that I arraign myself as severely as any one else; for within a few years I have followed, in all the Census work in which I have been engaged, the old form; nor did I fully comprehend the enormity of the error, and the infinite harm it has done, and is likely to do.

With this admission by Col. Wright, of the unreliability of the Census Report, we are surprised that the Statistician, Mr. J. R. Dodge, should attempt to make it prove that the industry of apiculture was declining.

Upon one erroneous conclusion he bases another argument, viz: that because of the decreased honey-production, the people have been annually "consuming fifteen millions of pounds of substitutes, in the belief that they had the genuine product of the hive."

By intimation, the Statistician endorses the Wiley lie about manufac tured comb honey, years after it has

been exploded and acknowledged to be a falsehood, by its author!

No, sir; your conclusions are as erroneous as your premises! The production of honey, instead of being only twenty-five millions of pounds—is over one hundred millions—four times as much! Its increase has kept pace with other products! And it is the "pure product of the hive," too!

It is too bad that such incorrect and damaging statements and arguments should be published by those who ought to know better; and going out under the endorsement of the Government, they not only deceive those not posted, but also form the basis for other falsehoods.—ED.]

CONVENTION DIRECTORY.

1890. *Time and place of meeting.*

Oct. 18.—York & Cumberland, at Goodman's Mills, Me
C. W. Costellow, Sec., Waterboro, Maine.

Oct. 22, 23.—Missouri State, at Mexico, Mo.
J. W. Rouse, Sec., Mexico, Mo.

Oct. 29-31.—International American, at Keokuk, Ia.
C. P. Dadant, Sec., Hamilton, Ills.

Oct. 30.—Turkey Hill, at Wilderman's Sta., Ills.
A. Fehr, Sec., Belleville, Ills.

1891.

Jan. 1.—Michigan State, at Detroit, Mich.
H. D. Cutting, Sec., Clinton, Mich.

May 7.—Susquehanna County, at Montrose, Pa.
H. M. Seeley, Sec., Harford, Pa.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of the time and the place of each future meeting.—THE EDITOR.

International Bee-Association.

PRESIDENT—Hon. R. L. Taylor..Lapeer, Mich.
SECRETARY—C. P. Dadant.....Hamilton, Ills.

National Bee-Keepers' Union.

PRESIDENT—James Heddon..Dowagiac, Mich.
SEC'Y AND MANAGER—T. G. Newman, Chicago.

SELECTIONS FROM OUR LETTER-BOX

Heavy Fall Crop—Foul Brood.

I have had no trouble whatever with my friends down in the swamps, though I heard a good many threats. I tried to compromise with them, but they would not listen to me, so I have just let them alone, and everything is quiet since the bees water in other places. I moved 96 hives there, and I believe that my crop of Spanish-needle, golden-rod, heart's-ease and asters from those 96 colonies will be over 5,000 pounds of extracted honey; even on the hills the fall crop is heavy. I think that my fall crop will amount to from 7,000 to 10,000 pounds, and I obtained about 5,000 pounds of surplus clover honey.

Now, as to foul brood: I do not believe that my bees ever had the foul brood, or Mr. Hambaugh's either; though a year ago I was so sure of it that I burned up three hives, combs, bees, and all. I am not certain, but I think the fault lies in the queen. I noticed the same condition of things in three or four hives this spring—some of them I just let alone, only kept the entrance controlled, and was very careful about handling them to prevent spreading it. It answered the description of foul brood to the dot, except there was no stench about it, and from two or three to a dozen of dead brood to a comb. It has disappeared altogether. This may explain how it was that some people have succeeded in curing foul brood with phenol or carbolic acid, or salicylic acid, etc. I do not suppose that their bees had the genuine foul brood, for I am satisfied that I never have seen the genuine foul brood. I have about 230 of as fine colonies as can be found anywhere—healthy, full of bees, brood and honey; I have never felt more encouraged to stick to the bee-business than this fall. The bees have worked heavy on golden-rod for nearly a month, and are at it yet very strong.

A. N. DRAPER.

Upper Alton, Ills., Sept. 25, 1890.

Fall Honey from Golden-Rod.

Bees are just rolling in the honey from golden-rod—the hives are just chock-full. I have had Carniolan bees for three years, and find the Italian bees the best of all.

JOHN W. RIDER.

Roseville, O., Oct. 6, 1890.

Large Fall Crop of Honey.

We have had the finest honey seeson this fall (from Sept. 15 to Oct. 1) that I ever saw—principally from golden-rod. Bees are strong in numbers, and rich in stores. They are surely in as good condition as bees could be for winter. J. A. WEEKS.

Young's Creek, Ind., Oct. 6, 1890.

Sneeze-Weed and Aster.

I send two plants of which I would like you to please give the name. No. 1 grows in great abundance here in the Mississippi bottoms, begins blooming about the first week in August, and bees work on it all through the day; its honey is yellow and slightly bitter. No. 2 began blooming about Sept. 10, and bees work on it constantly; it yields a thick, yellow honey of fine flavor, and grows also in the bottoms, but not so plentiful as No. 1.

W. J. CULLINAN.

Quincy, Ills., Sept. 17, 1890.

[No. 1 is sneeze-weed (*Helenium autumnale*). It has a large yellow blossom.

No. 2 is *Aster diffusus*, and has a small, white blossom.—C. M. WEED.]

When and How to Plant Melissa.

In reply to the question asked by Mr. W. M. Crutcher, of Zellwood, Fla., on page 644, as to the time and manner of planting melissa, I submit the following:

I sow the seed late in the fall, just before the ground freezes, or as early in the spring as the soil is fit to work. To obtain the best results, however, the plants should be cultivated, but I usually scatter the seeds in waste-places, and also on leased ground. In this locality I have found it profitable, as I have honey-producing plants in the interim between clover and fall flowers. By sowing at intervals, I have plants in bloom from July 10 until they are killed by frost. A. C. TYRREL.

Madison, Nebr., Oct. 3, 1890.

The Davenport, Iowa, Fair.

It has been eleven years since I was in the bee-business, but there is yet an old love for honey, if not for the honey-bee. In attending the Davenport Fair, my attention was arrested by a large and beautiful display of honey and bees, by D. D. Hammond, of Malone, Iowa, and Wm. Kimble, of De Witt, Iowa. There was 3,000 pounds of extracted and comb honey. The extracted was in glass pails, and the comb was in one-pound sections. At the top of all was "FAIR, 1889," built of comb honey. The bees were in one-comb hives, with glass on either side. There were black, German, Cyprian, Syrian, Carniolan, hybrid and Minorcan bees, making a fine display. DR. PALMER.

Davenport, Iowa.

Bee-Keeping on the Gulf.

I would like to inquire of any bee-keeper in Southwest Texas (in the vicinity of Corpus Cristi or Rockport, on the Gulf), whether it is a good location for successful honey-production. I desire the information, as I think of locating near Corpus Cristi, and it will depend very much whether the country will be suitable for honey production. C. M. DAVIS.

318 Rusk St., Denison, Texas.

[If any of our Texas readers can and will answer this question, they will do Mr. Davis a favor.—ED.]

Worth Twenty Dollars a Year.

This has been the poorest season for honey since I have kept bees. I had 8 colonies of bees, spring count, in box-hives, lost 3 swarms, and have 10 colonies, fall count. I obtained 40 pounds of honey from the colonies in box-hives, and 300 pounds in one-pound sections from 5 colonies. If I had not subscribed for the AMERICAN BEE JOURNAL I should not have changed hives. I have taken the BEE JOURNAL for one year, and it has been worth $20 to me since I subscribed for it.

Waupun, Wis. FORREST W. STREETER.

Bees Ready for Winter.

A few frosty nights have practically closed up the honey-gathering in this locality. Bees are in much better condition for wintering now than at this time last year. Since the middle of August, bees have obtained a large amount of honey, and the hives are chock-full of both bees and winter stores. A good winter for the wintering of bees is looked for. My entire apiary is in chaff hives, and will be left on the summer stands. I have at this date all the boxes and extracting frames removed from the hives, ready for the top-packing, just as soon as the leaves fall, and the weather gets cooler. A report as to the amount of honey obtained may be of some interest in the near future, notwithstanding I have only obtained a partial crop of honey. J. M. YOUNG.

Plattsmouth, Nebr., Oct. 3, 1890.

AMERICAN BEE JOURNAL
ESTABLISHED IN 1861 — OLDEST BEE PAPER IN AMERICA

ALFRED H. NEWMAN,
BUSINESS MANAGER.

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☞ Subscribers who do not receive their papers promptly, should notify us at once.

☞ Send us *one new* subscription, with $1.00, and we will present you with a nice Pocket Dictionary.

☞ Red Labels are nice for Pails which hold from 1 to 10 lbs. of honey. Price $1.00 per hundred, with name and address printed. Sample free.

☞ Calvert's No. 1 Phenol, mentioned in Cheshire's Pamphlet on pages 16 and 17, as a cure for foul brood, can be procured at this office at 25 cents per ounce, by express.

☞ Send us *two new* subscriptions, with $2.00, and we will present you with a "Globe" Bee-Veil for your trouble. (See the fuller notice in the advertising columns.)

☞ The date on the wrapper-label of this paper indicates the end of the month to which you have paid. If that is past, please send us a dollar to advance that date another year.

☞ Please send us the names of your neighbors who keep bees, and we will send them sample copies of the BEE JOURNAL. Then please call upon them and get them to subscribe with you.

☞ Any of the Political Dollar Weekly Newspapers will be clubbed with our JOURNAL at $1.85 for the two; or with both our HOME JOURNAL and BEE JOURNAL for $2.25 for all three papers.

☞ As there is another firm of "Newman & Son" in this city, our letters sometimes get mixed. Please write *American Bee Journal* on the corner of your envelopes to save confusion and delay.

☞ Systematic work in the Apiary will pay. Use the Apiary Register. Its cost is trifling. Prices:

For 50 colonies (120 pages)	$1 00
" 100 colonies (220 pages)	1 25
" 200 colonies (420 pages)	1 50

☞ When talking about Bees to your friend or neighbor, you will oblige us by commending the BEE JOURNAL to him, and taking his subscription to send with your renewal. For this work we will present you with a copy of the Convention Hand Book by mail, postpaid. It sells at 50 cents.

☞ A "Binder" made especially for the AMERICAN BEE JOURNAL, and lettered in gold, makes a very convenient way of preserving the copies of the BEE JOURNAL as fast as they are received. We offer it, postpaid, for 60 cents; or as a premium for *two new* subscriptions, with $2.00. It cannot be mailed to Canada.

HONEY AND BEESWAX MARKET.

DENVER, Sept. 15.—We quote: 1-lbs., first grade, 16@18c. Beeswax, 20@25c.
J. M. CLARK COM. CO., 1517 Blake St.

BOSTON, Oct. 9.—Market is strong at 17@18 cts. for white 1-lbs.; white 2-lbs., 16@17 cents. Extracted, 7½@8c. No beeswax on hand.
BLAKE & RIPLEY, 57 Chatham Street.

MILWAUKEE, Oct. 11.—Market is in good condition for honey; demand is steady and good values maintained, while the supply is fair to meet the current demands. We quote: Choice white 1-lbs., 17@18c.; good white 1-lbs. 16@17c. Dark and old 1-lbs., 10@12c. Extracted, white in barrels, 8½@9c.; in kegs or tin, 9@9½c.; dark, in barrels or kegs, 6@7c.—Beeswax, 26@30c.
A. V. BISHOP, 142 W. Water st.

CHICAGO, Oct. 11.—Best grades of honey sell at 17@18c. For brown and dark in uncleaned sections there is a light demand, the prices having to be shaded to meet the views of the few buyers there are for that grade.—Extracted, steady at 7@8c.—demand is good. Beeswax, 27@28c.
R. A. BURNETT, 161 S. Water St.

KANSAS CITY, Oct. 8.—We quote: White 1-lbs., 16@18c.; dark, 12@14c. Receipts are light. We have received several carloads from California, of comb and extracted—1-lbs. we quote at the same price as native. We quote white 2-lbs. at 15@16c.; Extra C. and C. at 14@15c. Extracted, 6@7c. Beeswax, 25c.
CLEMONS, MASON & CO.,
Cor. 4th and Walnut Sts.

CHICAGO, Oct. 11.—New honey arriving very slowly, demand active, and all receipts are taken promptly. We quote: White clover 1-lbs., 16@18c.; 2-lbs., 14@15c.; dark 1-lbs., 11@12c; 2-lbs., 9@10c. Extracted meets with quick sale, values ranging from 6½@7½ cts., depending upon quality and style of package. Beeswax, 28@30c.
S. T. FISH & CO., 189 S. Water St.

KANSAS CITY, Sept. 11.—Demand for comb honey is larger than the receipts. We quote: White 1-lbs., 16c.; 2-lbs., 14c. Dark 1-lbs. 13c.; 2-lbs., 12c. Extracted, white, 7c.; dark, 5@6c. No beeswax on the market.
HAMBLIN & BEARSS, 514 Walnut St.

CINCINNATI, Oct. 8.—Demand is good for all kinds of honey. The supply is fair. We quote: Choice comb, 14@16c.; extracted, 5½@8c.
Beeswax is in good demand at 24@26c., for good to choice yellow. C. F. MUTH & SON,
Corner Freeman & Central Aves.

Clubs of 5 New Subscriptions for $4.00, to any addresses. Ten for $7.50.

The "Farm-Poultry" is a 20-page monthly, published in Boston at 50 cents per year. It is issued with a colored cover and is finely illustrated throughout.

We have arranged to club the AMERICAN BEE JOURNAL with the *Farm-Poultry* at $1.35 per year for the two. Or with the ILLUSTRATED HOME JOURNAL at $1.75 for the three.

A B C of Strawberry Culture is the name of a neat pamphlet of 150 pages, by Messrs. T. B. Terry and A. I. Root. It covers the whole subject in an interesting manner, is nicely illustrated, and is just the work for those beginning to grow delicious strawberries. Price, postpaid, 40 cents. For sale at this office.

Tin Pails for Honey.

THESE Pails have full covers, and are excellent for selling Honey in the Home Market; and after the Honey granulates in them, it can be shipped anywhere with perfect safety. All sizes have a bail, or handle, and when empty are useful in every household.

The engraving shows STRAIGHT TIN PAILS, of which there are 3 sizes, holding respectively 3, 5 and 10 lbs. of Honey. Assorted Samples of the 3 sizes will be sent by express for 40 cts. In quantities, the prices are:

	Per doz.	Per 100
Gallon...holds 10 lbs	...$1.80	....$12.00
½-Gallon, holds 5 lbs.	.... 1.50	. 9.00
Quart, holds 3 lbs	..... 1.20	.... 7.00

The second engraving represents THE TAPERING TIN PAILS—made heavier and stronger than those with straight sides. The covers are deeper, and the top-edge of the Pail is doubled over, making it smooth and convenient to handle. Of the Tapering Pails there are five sizes, viz: 1-lb., 4-lb., 7-lb., 13-lb., and 25-lb. Assorted Samples of these will be shipped by express for 75 cents. In quantities, the prices are as follows:

To hold	1-lb.	4-lbs.	7-lbs.	13-lbs.	25-lbs.
Per dozen,	$ .75....	$1.25....	$ 1.50....	$ 2.00....	$ 3.25
Per 100,	5.00....	8.00....	10.00....	14.50....	23.00

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On and after Feb. 1, 1890, we will sell our No. 1 V-groove Sections in lots of 500 as follows: Less than 2,000 at $3.50 per thousand; 2,000 to 5,000 at $3.00 per thousand. Write for special prices on larger quantities. No. 2 Sections $2.00 per thousand. Send for Price-List for other Supplies. Address,

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BEESWAX WANTED.

Beeswax.—We will pay **27 cents** per pound, in Cash, for Yellow Beeswax, delivered here.

☞ To avoid mistakes, the name of the shipper should always be on each package.

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Bound in Cloth—176 pages—**Price, $1.00,** postpaid; or, it will be Clubbed with the American Bee Journal one year, for $1.75—with the Illustrated Home Journal, for $1.25; or the two Journals and the Book for $2.00.

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Hamilton, Hancock Co., Ills
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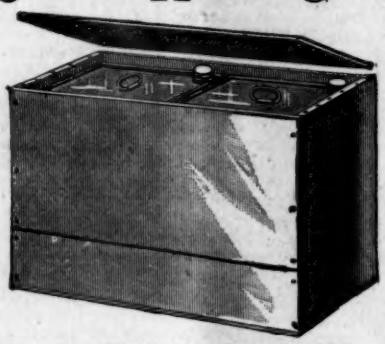
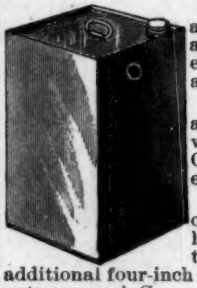
SQUARE HONEY CANS



The above illustration shows the 60 pound SQUARE HONEY CANS which are becoming quite popular for shipping extracted honey.



They are enclosed in a solid case of wood, and the boxes contain either one or two Cans as may be preferred.

We can furnish them at the following prices, with a 1⅛-inch Screw Cap in the corner of each Can.

For the convenience of digging out candied honey, we can furnish these Cans with an additional four-inch Screw Cap for 5 cents extra on each Can.

1	Single Can	(boxed)	$ .45
12	" Cans	"	5.00
100	" "	"	40.00
1	box of two Cans		.75
12	boxes "		8.40
100	" "		65.00

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The "Shuck" Bee-Feeder, as here shown, may be placed at the hive-entrance, any time of the day, without danger from the

robber bees. It feeds much or little, as may be wanted, and the food can be reached by the bees only from the inside of the hive.

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The experience of the last season should prompt every bee-keeper to have his supply of Hives, etc., on hand before the season commences, and avoid the rush.

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